RAC II FIXED RATE STATEMENT OF WORK FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI)

WEST COUNTY ROAD 112 GROUND WATER PLUME SITE, MIDLAND COUNTY, TEXAS

July 26, 2010

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WEST COUNTY ROAD 112 GROUND WATER PLUME SITE,
MIDLAND COUNTY, TEXAS
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Contract No: EP-W-006-004
Task Order No:

Introduction

PURPOSE

The purpose of this task order is to conduct a remedial investigation/feasibility study (RI/FS) to determine the source area(s) for one or more ground water contaminant plumes, and select a remedy that eliminates, reduces, or controls risks to human health and the environment. Specifically, the RI/FS involves the investigation and study of ground water contamination and potential source areas at the Site. This statement of work (SOW) sets forth the framework and requirements for this effort. The goal is to develop the minimum amount of data necessary to support the selection of an approach for site remediation and then to use this data to result in a well-supported Record of Decision (ROD). The estimated completion date for this task order is May 30, 2013.

SITE DESCRIPTION

The Site consists of a chromium plume originating from an unidentified source area(s). The Site is located north and south of Interstate 20, which is within and south of the Midland city limits. The plume(s) are located beneath mostly commercial industrial areas in the potential source area(s), but has migrated beneath mostly residential areas to the south. The contaminant plumes have impacted private residential wells and supply wells that serve multiple residences. The TCEQ has installed filtration systems on those private wells with concentrations greater than the drinking water standards. The contamination has been detected in the Trinity aquifer at a depth of approximately 50 feet to 100 feet below ground surface based on private water well logs. Ground water flow appears to be from north to south-southeast based on contaminant distribution.

GENERAL REQUIREMENTS

This is a fixed rate task order that requires the contractor to complete a RI/FS to support development of a ROD that when implemented through a remedial action will eliminate, reduce or control risks to human health and the environment. Furnish all necessary and appropriate personnel, materials, and services needed for, or incidental to, performing and completing the RI/FS in accordance with the requirements of this SOW.

This SOW and accompanying work breakdown structure (WBS) (Attachment 2) is provided as a format for the contractor to structure its proposed approach and cost estimate. Use the WBS in cost estimate preparation and technical and cost tracking and reporting under this task order.

In conducting the fixed rate task order, EPA expects the contractor to propose and implement the most appropriate and cost-effective procedures and methodologies using accepted engineering practices and controls. Throughout the performance of this task order, EPA expects the contractor to be responsible for performing services and providing products at the lowest reasonable cost. If the contractor fails to meet the requirements within the negotiated costs, the government may elect to provide the contractor with additional funds to complete the task order without providing any additional fee. If there are changes to the SOW by the government, the government will issue a formal amendment to the SOW and negotiate the cost of the amendment with the contractor to form a new cost estimate.

A summary of the potential major deliverables and proposed schedule for submittals is in Attachment 1. This summary and schedule can be used as the basis for the contractor's proposed deliverables and schedules included in the work plan. Submit the major deliverables using the Transmittal of Documents for Acceptance by EPA Form. (Attachment 4). The EPA Task Order (TOM) will track deliverables submitted by the contractor using the Transmittal Register (Attachment 5).

A list of primary guidance and reference material is provided in Attachment 3. In all cases, the contractor shall use the most recently issued guidance.

Communicate at least weekly with the EPA TOM, either in face-to-face meetings or through conference calls. Document all decisions that are made in meetings and conversations with EPA. Forward this documentation to the TOM within five working days of the meeting or conversation.

EPA provides oversight of contractor activities throughout the RI/FS. EPA review and approval of deliverables is a tool to assist this process and to satisfy, in part, EPA's responsibility to provide effective protection of public health, welfare, and the environment. EPA also reviews deliverables to assess the likelihood that the RI/FS achieves its goals and that its performance and operations requirements have been met. Acceptance of deliverables by EPA does not relieve the RI/FS contractor from responsibility for the adequacy of the deliverables or its professional responsibilities.

RECORD KEEPING REQUIREMENTS

Maintain all technical and financial records for the RI/FS in accordance with the contract. At the completion of the task order, submit an official record of the RI/FS in both compact disk and a hardcopy to the TOM. Provide the deliverables using electronic media.

USEPA PRIMARY CONTACTS

The primary contact for this task order is Vincent Malott. He can be reached at (214) 665-8313, via facsimile at (214) 665-6660, or via e-mail at malott.vincent @epa.gov. His mailing address is US EPA Region 6, Superfund Division (6SF-AP), 1445 Ross Avenue, Dallas, Texas 75202.

TASK ORDER COMPLETION DATE AND PROJECT CLOSEOUT

At the completion of the task order, perform all necessary project closeout activities as specified in the contract. These activities include closing out any subcontracts, indexing and consolidating project records and files as required above, and providing a technical and financial closeout report to EPA. The goal is to complete all technical activities and closeout activities for this task order by May 30, 2013.

RI Work Planning

TASK 1 PROJECT PLANNING AND SUPPORT WBS: 1

This work element involves planning for the execution and overall management of this task order. The technical and managerial activities required to implement the RI and the associated costs shall be developed during the planning phase and detailed in the RI/FS work plan and cost estimate.

TASK 1.1 WORK PLAN WBS: 1.1

Prepare and submit a RI/FS work plan that includes a detailed description of implementation activities, performance monitoring, and overall management strategy, including optimization, for the RI/FS. Typical activities involved in preparing the work plan include, but are not limited to, the following:

- Attend scooping meeting. Contact the Task Order Manager (TOM) within five calendar days after receipt of the task order to schedule the scoping meeting to be held at the U.S. EPA Region 6 office in Dallas, Texas.

- Conducting a site visit with the TOM during the RI/FS planning phase to assist in developing an understanding of the site and any logistics.

- Develop work plan and cost estimate. The work plan shall include a detailed description of the technical approach for the RI/FS activities in accordance with the SOW. Specify the necessary procedures,

inspections, deliverables, and schedules. Include a comprehensive implementation management schedule for completion of each major activity and submittal. Prepare the estimated cost to complete the task order, including subcontractor costs, for each element of the SOW; and, provide a breakdown of the cost by task and subtask levels, in accordance with the contract work breakdown structure (WBS).

- Negotiation and Revised Work Plan. Negotiate and prepare a revised work plan, if the contractor fails to meet the Region's minimum standards. Note that EPA does not anticipate a need to re-negotiate with the contractor nor to require the contractor to revise the work plan. Contractor costs associated with the preparation of the revised work plan and cost estimate shall be paid by the government but shall not bear fee.

TASK 1.2 SITE-SPECIFIC PLANS WBS: 1.2

Review all existing site-specific plans and prepare, update, and/or maintain plans, as necessary, for RI implementation. Incorporate the plans and procedures received from any subcontractor(s) into the overall site plans. Should the contractor fail to meet the required standards in accordance with the appropriate legal, regulatory, and EPA guidance, prepare revised site-specific plans. (NOTE: In that event, contractor costs associated with the preparation of the revised site-specific plans shall be paid by EPA but shall not bear fee.) Typical plans include, but are not limited to, the following:

- Sampling and Analysis Plan (SAP) in accordance with 40 CFR 300.415(b)(4)(ii).

- Site-specific Health and Safety Plan (HSP) that specifies employee training, protective equipment, medical surveillance requirements, standard operating procedures, and a contingency plan in accordance with 29 CFR 1910.120(l)(1) and (l)(2).

- Pilot Test Work plan in support of Task 8 activities.

TASK 1.3 POLLUTION LIABILITY INSURANCE **[INACTIVE]** WBS 1.3

Prepare and submit costs to the Contracting Officer for approval for task order-specific Pollution Liability Insurance, if the contractor plans to bill insurance premiums as a direct charge to the task order and there is no contract-wide Pollution Liability Insurance. (NOTE: Track and report all costs associated with this subtask separately and in accordance with the Reports of Work, Attachment B, of this contract.)

Project Management and Reporting

TASK 1.4 PROJECT MANAGEMENT WBS: 1.4

Perform activities required to effectively manage the task order. These activities typically include, but are not limited to, the following:

- Monitoring costs and progress.

- Preparing and submitting monthly progress reports that document monthly and cumulative cost, performance status, and technical progress.

- Preparing and submitting monthly invoices in accordance with the level of detail as specified in the contract.

- Manage, track, and report status of site-specific equipment.

- Participating in meetings and preparing and submitting meeting summaries.

- Accommodating any external audit or review mechanism that EPA requires.

- Evaluating existing data, including usability, when directed by EPA.

- Coordinating with local and emergency response teams.

- Reviewing background documents as directed by EPA.

- Attending EPA-held training.

TASK 1.5 PROJECT INITIATION WBS: 1.5

Perform project initiation and support that will lead to the selection of a remedy that eliminates, reduces, or controls risks to human health and the environment. Typical activities include, but are not limited to, the following:

- Developing a conceptual understanding of the site based on the evaluation of existing data and summarizing this understanding in a Technical Memorandum. This should include, but not limited to:
  - Land use with supporting maps to locate surface structures and planning data collection activities
  - Contaminant characteristics
  - Geologic characteristics of the vadose zone and aquifer
  - Hydrogeologic characteristics (e.g., aquifer characteristics, ground water flow, ground water recharge and discharge)
  - Plans and schedules for implementing the ground water investigation based on the preliminary CSM.
  - Updates to the CSM following significant stages of the investigation.

- Identifying likely response scenarios and potentially applicable technologies and operable units that address site problems and submitting this information in a Technical Memorandum. Updates to the response scenarios will be prepared as needed following significant stages of the investigation.

- Preparing conceptual exposure pathway analysis in accordance with Regional guidelines and OSWER Directives 9285.7-02B, 12/89 (*Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A, Baseline Risk Assessment*); Interim Final) and 9285.7-01A (*Risk Assessment Guidance for Superfund, Volume II: Environmental Evaluation Manual*) and submitting this information in a Technical Memorandum. Updates to the exposure pathway analysis will be prepared as needed following significant stages of the investigation.

- Initiating identification of Applicable or Relevant and Appropriate Requirements (ARARs) that affect remedy selection and submitting this information in a Technical Memorandum. Updates to the ARARs summary will be prepared as needed following significant stages of the investigation.

- Developing an EPA-approved laboratory quality assurance program that provides oversight of in-house and subcontracted laboratories through periodic performance evaluation sample analyses and/or on-site audits of operations and has a system of corrective actions to be used in cases where performance does not meet the standards of the program. [**INACTIVE**]

- Developing/reviewing qualifications of the laboratory for the given analytical requirements.

- Procuring, managing, and providing oversight of pool and team subcontracts for analytical services.

TASK 2 COMMUNITY INVOLVEMENT (CR) **[INACTIVE]** WBS: 2

Prepare and implement the Community Involvement Plan (CIP) for the site. Perform community involvement activities in support of EPA throughout the RI in accordance with the *National Oil and Hazardous Substances Pollution Contingency Plan* (NCP, 40 CFR Part 300) and the *Community Relations in Superfund - A Handbook*, (U.S. EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9230.0-3C, January 1992). These tasks include, but are not limited to, the following:

- Conducting community interviews.
- Developing Community Involvement Plan (CIP).
- Providing public meeting and/or open house support.
- Preparing fact sheets, notices and other informational documents.
- Providing support for proposed plan.
- Providing public hearing support.
- Publishing public notices in local newspapers serving the site community.
- Maintaining public information repository.
- Developing and updating site mailing lists.
- Providing administrative and technical support for Responsiveness Summary.
- Preparing presentation materials.
- Implementing other community involvement activities as identified by the site-specific CIP or EPA.
- Providing technical support to review Community Involvement deliverables and participate in public meetings.

Risk Identification and Assessment

TASK 3 FIELD INVESTIGATION/DATA ACQUISITION (FI) WBS: 3

Collect environmental data required to support the remedial investigation/feasibility study. Data acquisition begins with EPA's approval of the Sampling and Analysis Plan (SAP). Typical activities include, but are not limited to, the following:

- Mobilization/demobilization.
- Hydrogeological assessment.
  - Test boring and monitoring well installation and development
  - Downhole geophysics
  - Groundwater elevation measurements
  - Aquifer tests
- Soil boring, drilling, and testing.
- Environmental sampling.
  - Field screening
  - Groundwater sampling
  - Soil boring/permeability sampling
- Reuse assessment. **[INACTIVE**]
- Geotechnical survey. **[INACTIVE**]
- Field-generated waste characterization and disposal in accordance with local, State and Federal regulations.

- Site reconnaissance.
  - Well inventory
  - Site access agreements
  - Property records search for site access

- Ecological Characterization. [**INACTIVE**]
  - Wetland and habitat delineation/function and value assessment
  - Wildlife observations
  - Benthic reconnaissance/community characterization
  - Identification of endangered species and others of special concern
  - Bioassays
  - Bioaccumulation studies
  - Biota sampling/population studies

TASK 4 SAMPLE ANALYSIS (SN) WBS: 4

Analyze samples taken under Task 3. A variety of mechanisms may be used to implement this task for the ground water and waste samples including: field screening using mobile facilities or field portable equipment, the Contract Laboratory Program (CLP), laboratories procured under subpool or team subcontracts, or the EPA Regional Laboratory in Houston, Texas. [For cost estimating purposes, there should be no direct labor costs under this task - no hours should be reflected under this task, only dollars.]

TASK 5 ANALYTICAL SUPPORT AND DATA VALIDATION (AN) WBS: 5

Schedule, coordinate, track, and oversee sample analyses and validate analytical data. Typical activities include, but are not limited to, the following:

- Preparing and shipping environmental samples in accordance with the Field Sampling Plan (FSP). The following types of sampling shall be required:
  - Ground water sampling
  - Waste material sampling
  - Soil sampling

- Developing data quality objectives (DQO) for each sampling event; these DQOs shall be the determinative factor for assessing the success or failure of the sampling.

- Requesting, obtaining, and performing oversight of analytical services in compliance with EPA requirements.

- Coordinating with the EPA Sample Management Office (SMO), the Regional Sample Control Coordinator (RSCC), and/or the region 6 Houston Laboratory regarding analytical support, data validation, and quality assurance issues.

- Implementing the EPA-approved laboratory quality assurance program that provides oversight of in-house and subcontracted laboratories through periodic performance evaluation sample analyses and/or on-site audits of operations and has a system of corrective actions.

- Providing sample management including chain of custody procedures and information management.

- Performing data validation on non-CLP/EPA laboratory data, the process by which the quality of the data, the defensibility of the data, and the chain of custody are verified. Performing data validation in accordance with Regional guidelines.

- Reviewing data for usability for its intended purpose.

- Providing reports on data validation and usability from non-CLP/EPA laboratories.

TASK 6 DATA EVALUATION (DE) WBS: 6

Compile analytical and field data.

- Provide data in format that is compatible with Regional or National electronic data management network. Data shall be used in the preparation of the RI tables, maps and figures. Typical activities include, but are not limited to, the following:
  - Data usability evaluation and field quality assurance/quality control (QA/QC).
  - Data reduction and tabulation.
    - Soil boring and monitoring well logs.
    - Field sampling data.
    - Hydrogeological testing data.
    - Geophysical data (downhole geophysics, survey).
    - Analytical results.
  - Data trend evaluation and submission of Technical Memorandum.

- Environmental Fate and Transport Modeling/Evaluation.
  - Development of a ground water flow model for evaluating plume development and growth. This report will be included in the RI Report developed in Task 9.
  - Development of remedial simulations for the ground water contamination. This report will be included with the Remedial Alternatives Screening Technical Memo in Task 10 and the FS Report developed in Task 12.

TASK 7 RISK ASSESSMENT (RA) WBS: 7

Conduct baseline human health risk assessments. The objective of this assessment is to characterize and quantify, where appropriate, the current and potential human health and environmental risks that would prevail if no further remedial action is taken. Risk Assessment must be done in accordance with applicable Agency guidance, directives and procedures.

RI/FS Reports

TASK 8 TREATABILITY STUDY/PILOT TESTING (TT) WBS: 8

Conduct laboratory screening, bench-scale and pilot-scale treatability studies to determine the suitability of remedial technologies or alternatives to site conditions and problems. Typical activities include, but are not limited to, the following:

- Providing test facility and equipment.

- Testing and operating equipment.

- Retrieving sample for testing.

- Preparing Technical Memorandum.

- Characterizing and disposing of residuals in accordance with local, State, and Federal regulations.

TASK 9 REMEDIAL INVESTIGATION REPORT (RR) WBS: 9

Prepare findings after data have been evaluated. The focused RI shall provide information to assess risks to human health and the environment, identify the source(s) of the ground water contamination, and support the development, evaluation, and selection of appropriate response alternatives. The task includes all draft and final reports. The RI report shall be written in accordance with *Guidance for Conducting Remedial Investigations/Feasibility Studies under CERCLA*, OSWER Directive 9355.3-01, October 1988, Interim Final (or latest revision) and *Guidance for Data Usability in Risk Assessment*, (EPA/540/G-90/008), October 1990 (or latest revision).

Typical components of the RI report include, but are not limited to, the following:

- Site Background
  - Site description
  - Site history
  - Investigation summary

- Investigation
  - Conceptual site model
  - Field Investigation and technical approach
  - Chemical analyses and analytical methods
  - Field methodologies (e.g., monitoring well installation, ground water sampling, hydrogeological assessment)

- Site Characteristics
  - Geology
  - Hydrogeology
  - Demographics and land use

- Nature and Extent of Contamination
  - Contaminant sources
  - Summary of analytical results
  - Contaminant distribution and trends

- Fate and Transport.
  - Contaminant characteristics
  - Degradation pathways
  - Transport processes
  - Contaminant migration trends

- Summary and Conclusions.

TASK 10 REMEDIAL ALTERNATIVES SCREENING (RS) WBS: 10

Develop appropriate remedial alternatives to undergo full evaluation. The alternatives are to encompass a range including innovative treatment technologies consistent with the regulations outlined in the NCP, 40 CFR Part 300 and applicable Agency guidance, procedures and directives. The analysis will include institutional controls (ICs) to the extent appropriate. Typical activities include, but are not limited to, the following:

- Establish remedial action objectives

- Establish general response actions

- Identify and screen applicable remedial technologies

- Develop remedial alternatives in accordance with Section 300.430(e) of the NCP (1990)

- Screen remedial alternatives for effectiveness, implementability and cost
- Prepare Technical Memorandum.

TASK 11 REMEDIAL ALTERNATIVES EVALUATION (RE) WBS: 11

Assess individual alternatives against each of the nine evaluation criteria and a comparative analysis of all options against the evaluation criteria. The analysis shall be consistent with the NCP, 40 CFR Part 300 and shall consider the *Guidance for Conducting Remedial Investigation and Feasibility Studies under CERCLA* (OSWER Directive 9355.3-01), *Guide to Developing and Documenting Cost Estimates During the Feasibility Study* (OSWER Directive 9355.0-75), and other pertinent OSWER guidance. The analysis will include institutional controls (ICs) to the extent appropriate. EPA will make the determination regarding final selection of the remedial alternative.

The nine criteria to be employed in evaluation of remedial alternatives are:

- Overall protection of human health and the environment
- Compliance with applicable or relevant and appropriate requirements (ARARs)
- Long-term effectiveness and permanence
- Reduction in toxicity, mobility or volume through treatment
- Short-term effectiveness
- Implementability - technical and administrative
- Cost
- State acceptance
- Community acceptance.

TASK 12 FEASIBILITY STUDY REPORT (FS) WBS: 12

Prepare findings after remedial alternatives have been screened and evaluated. The task includes preparation of all draft and final reports. Typical components of the Feasibility Study report include, but are not limited to, a discussion of the following:

- Feasibility Study Objectives.
- Remedial Objectives.
- General Response Actions.
- Identification and Screening of Remedial Technologies.
- Remedial Alternatives Description.
- Detailed Analysis of Remedial Alternatives (individual and comparative).
- Summary and Conclusions.

TASK 13 POST RI/FS SUPPORT (PR) WBS: 13

Provide support required for preparation of the ROD for the site. The final recommendation contained in the ROD shall represent the opinion and recommendation of EPA not that of the contractor. Typical activities include, but are not limited to, the following:

- Attending public meetings, briefings, public hearings, technical meetings with PRPs.
- Preparing presentation materials.
- Providing technical assistance in the preparation of the Responsiveness Summary.
- Providing technical assistance in the preparation of the Proposed Plan and ROD.
- Preparing Feasibility Study Addendum. **[INACTIVE**]

TASK 14 ADMINISTRATIVE RECORD (AR) **[INACTIVE]** WBS: 14

Produce the Administrative Record. Typical activities include, but are not limited to, the following:

- Attending meetings with EPA TOM, Site Attorney, and Administrative Record Coordinator.
- Providing assistance in compiling documents comprising of the Administrative Record File in accordance with EPA Regional guidance or other procedures as specified.
- Preparing Draft Administrative Record Index in accordance with EPA Regional guidance or other procedures as specified.
- Preparing Administrative Record Index.
- Coordinating duplication of Administrative Record.
- Assembling Administrative Record and Index.

TASK 15 TASK ORDER CLOSEOUT (CO) WBS: 15

Perform the necessary activities to close out the task order in accordance with contract requirements. Typical activities include but are not limited to, the following:

- Archive Files. Package and return documents to the government. Archive files in accordance with Federal Record Center requirements and apply an approved data storage technology.
- Closeout Report. Prepare the closeout report in accordance with Regional guidance or other procedures as specified in the task order. If the final hours/budget is greater than +/- 10% of the original approved work plan/task order hours/budget, the WACR shall describe the circumstances that explain why this occurred.

Attachment 1 - Summary of Major Submittals for the RI/FS at the West County Road 112 Site

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	EPA REVIEW PERIOD
1.1	Work Plan	3 paper copies and electronic deliverable to EPA.	30 days after receipt of the SOW from EPA	14 days after receipt of work plan
1.2.1	Sampling and Analysis Plan	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.2.2	Health and Safety Plan	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.2.3	Pilot Test Work Plan	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.4	Monthly Progress Reports	3 paper copies and electronic deliverable to EPA.	Monthly and as required in the contract	NA
1.5.1	Technical Memorandum	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.5.2	Technical Memorandum	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.5.3	Technical Memorandum	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
1.5.4	Technical Memorandum	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
6.1.3	Technical Memorandum	1 paper copy and either an electronic deliverable or 2 CDs to EPA. 2 paper copies and either an electronic deliverable or 1 CD to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	EPA REVIEW PERIOD
7	Risk Assessment Report	2 paper copies and either an electronic deliverable or 2 CDs of draft and final deliverable to EPA. 2 paper copies and either an electronic deliverable or 1 CD of draft and final deliverable to TCEQ.	To be determined during work plan development scoping meeting or conference call	15 working days after receipt of deliverable
8	Treatability Study Report	2 paper copies and either an electronic deliverable or 2 CDs of draft and final deliverable to EPA. 2 paper copies and either an electronic deliverable or 1 CD of draft and final deliverable to TCEQ.	To be determined during work plan development scoping meeting or conference call	10 working days after receipt of deliverable
9	Remedial Investigation	2 paper copies and either an electronic deliverable or 2 CDs of draft and final deliverable to EPA. 2 paper copies and either an electronic deliverable or 1 CD of draft and final deliverable to TCEQ.	To be determined during work plan development scoping meeting or conference call	15 working days after receipt of deliverable
10.6	Technical Memorandum	2 paper copies and either an electronic deliverable or 2 CDs of draft and final deliverable to EPA. 2 paper copies and either an electronic deliverable or 1 CD of draft and final deliverable to TCEQ.	To be determined during work plan development scoping meeting or conference call	15 working days after receipt of deliverable
12	Feasibility Study Report	2 paper copies and either an electronic deliverable or 2 CDs of draft and final deliverable to EPA. 2 paper copies and either an electronic deliverable or 1 CD of draft and final deliverable to TCEQ.	To be determined during work plan development scoping meeting or conference call	15 working days after receipt of deliverable
13.1	Meeting Summary	Electronic deliverable to EPA	2 days after completion of meeting	2 days after receipt of meeting summary
13.2	Presentation Materials	2 paper copies and electronic deliverable to EPA	3 days after receipt of technical direction from TOM	3 days after receipt of deliverable
13.3	Responsiveness Summary	1 paper copy and electronic deliverable to EPA	5 days after receipt of public comment summary.	5 days after receipt of deliverable
13.4	Proposed Plan/ROD	1 paper copy and electronic deliverable to EPA	3 days after receipt of technical direction from TOM	5 days after receipt of deliverable

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	EPA REVIEW PERIOD
15.2	Closeout Report		As Directed in the Task Order Closeout Notification	

Attachment 2 - Work Breakdown Structure (WBS) for Remedial Investigation/Feasibility Study (RI/FS)

Task 1 Project Planning and Support (PP)

1.1 Project planning.
- 1.1.1 Attend scoping meeting.
- 1.1.2 Conduct site visit.
- 1.1.3 Develop Work Plan and cost estimate
- 1.1.4 Negotiate Work Plan and Cost Estimate.

1.2 Prepare, review, and revise the site-specific plans required to implement the RI at the site.
- 1.2.1 Sampling and Analysis Plan (SAP).
- 1.2.2 Prepare a site-specific Health and Safety Plan (HSP) that specifies employee training, protective equipment, medical surveillance requirements, standard operating procedures, and a contingency plan in accordance with 29 CFR 1910.120(l)(1) and (l)(2). NOTE: The RI HSP may be modified for use if appropriate.
- 1.2.3 Pilot Test Work Plan

1.3 Pollution Liability Insurance.

1.4 Project management.
- 1.4.1 Monitor costs and prepare periodic status reports.
- 1.4.2 Participate in meetings/communicate routinely/prepare meeting notes.
- 1.4.3 Manage, track, and report status of site-specific equipment.
- 1.4.4 Accommodate any external audit or review mechanism that EPA shall require.
- 1.4.5 Evaluate existing data, including usability, when directed by EPA.
- 1.4.6 Coordinate with local and emergency response teams.
- 1.4.7 Review background documents as directed by EPA.
- 1.4.8 Attend EPA-held training.

1.5 Project initiation and support.
- 1.5.1 Develop a conceptual understanding of the site based on existing data.
- 1.5.2 Identify likely response scenarios, potentially applicable technologies and operable units that address site problems.
- 1.5.3 Prepare conceptual exposure pathway analysis.
- 1.5.4 Initiate identification of Applicable or Relevant and Appropriate Requirements (ARARs) that affect remedy selection.
- 1.5.5 Develop an EPA-approved laboratory quality assurance program. [**INACTIVE**]
- 1.5.6 Develop/review qualifications of the laboratory for the given analytical requirements.
- 1.5.7 Procure, manage, and provide oversight of subcontracts for analytical services.

Task 2 Community Involvement [INACTIVE] (CR)

2.1 Conduct community interviews.
2.2 Prepare Community Involvement Plan (CIP).
2.3 Provide public meeting and/or open house support.
2.4 Prepare fact sheets, notices and other informational documents.
2.5 Provide support for proposed plan.
2.6 Provide public hearing support.
2.7 Publish public notices in local newspapers serving the site community.
2.8 Maintain public information repositories.
2.9 Develop and update site mailing list.
2.10 Provide administrative and technical support for Responsiveness Summary.
2.11 Prepare presentation materials.
2.12 Implementation of other Community Involvement activities as identified by the site-specific Community Involvement Plan or EPA.
2.13 Provide technical support to review Community Involvement deliverables and participate in public meetings.

Task 3 Field Investigation/Data Acquisition (FI)

3.1 Mobilization/demobilization.
3.2 Hydrogeological assessment.

3.3 Soil boring, drilling, and testing.
3.4 Environmental sampling.
3.5 Reuse assessment. [**INACTIVE**]
3.6 Geotechnical survey. [**INACTIVE**]
3.7 Field-generated waste characterization and disposal in accordance with local, state and federal regulations.
3.8 Site reconnaissance.
3.9 Ecological characterization. [**INACTIVE**]

Task 4 Sample Analysis (SN)

4.1 Sample analyses and production of analytical data. [NOTE: For cost estimating purposes there should be no direct labor costs under this task - no hours should be reflected under this task, only dollars.]

Task 5 Analytical Support and Data Validation (AN)

5.1 Prepare, and ship environmental samples in accordance with the Field Sampling Plan (FSP).
5.2 Develop performance or acceptance criteria (such as data quality objectives (DQO)) for each sampling event; these criteria shall be the determinative factor for assessing the success or failure of the sampling.
5.3 Request, obtain, and perform oversight of analytical services in compliance with EPA requirements.
5.4 Coordinate with the EPA Sample Management Office (SMO), the Regional Sample Control Coordinator (RSCC), and/or the Environmental Services Division (ESD) regarding analytical support, data validation, and quality assurance issues.
5.5 Implement the EPA-approved laboratory quality assurance program that provides oversight of in-house and subcontracted laboratories through periodic performance evaluation sample analyses and/or on-site audits of operations and has a system of corrective actions.
5.6 Provide sample management including chain of custody procedures and information management.
5.7 Performing data validation on non-CLP/EPA laboratory data, the process by which the quality of the data, the defensibility of the data, and the chain of custody are verified. Perform data validation in accordance with Regional guidelines.
5.8 Review data for usability for its intended purpose.
5.9 Provide reports on data validation and usability from non-CLP/EPA laboratories.

Task 6 Data Evaluation (DE)

6.1 Combine analytical and field data, providing data in a format that is compatible with Regional or national electronic data management network.
  6.1.1 Data usability evaluation and field quality assurance/quality control (QA/QC).
  6.1.2 Data reduction and tabulation.
  6.1.3 Data trend evaluation and submission of Technical Memorandum.
6.2 Environmental fate and transport modeling/evaluation.
  6.2.1 Ground water flow model
  6.2.2 Remedial Simulations

Task 7 Risk Assessment (RA)

7.1 Conduct a baseline human health risk assessment.
7.2 Conduct a baseline ecological risk assessment. [**INACTIVE**]
7.3 Prepare draft risk assessment reports.
7.4 Prepare final risk assessment reports.

Task 8 Treatability Study/Pilot Testing (TT)

8.1 Provide test facility and equipment.
8.2 Test and operate equipment.
8.3 Retrieve sample for testing.
8.4 Prepare Technical Memorandum.
8.5 Characterize and dispose of residuals in accordance with Local, State and Federal Regulations.

Task 9 Remedial Investigation Report (RR)

9.1 Prepare draft Remedial Investigation report(s).
9.2 Prepare final Remedial Investigation report.

Task 10 Remedial Alternatives Screening (RS)

10.1 Establish remedial action objectives.
10.2 Establish general response actions.
10.3 Identify and screen applicable remedial technologies.
10.4 Develop remedial alternatives in accordance with Section 300.430(e) of the NCP (1990).
10.5 Screen remedial alternatives for effectiveness, implementability and cost.
10.6 Prepare Technical Memorandum.

Task 11 Remedial Alternatives Evaluation (RE)

11.1 Assess individual alternatives against each of the evaluation criteria.
11.2 Perform a comparative analysis of all options against the evaluation criteria.
11.3 Prepare a report of findings. [**INACTIVE**]

Task 12 Feasibility Study Report (FS)

12.1 Prepare draft Feasibility Study report.
12.2 Prepare final Feasibility Study report.

Task 13 Post RI/FS Support (PR)

13.1 Attend public meetings, briefings, public hearings, technical meetings with PRPs.
13.2 Prepare presentation materials.
13.3 Provide technical assistance in the preparation of the Responsiveness Summary.
13.4 Provide technical assistance in the preparation of the Proposed Plan and ROD.
13.5 Prepare Feasibility Study Addendum. [**INACTIVE**]

Task 14 Administrative Record [INACTIVE] (AR)

14.1 Attend meeting with EPA TOM, Site Attorney, and Administrative Record Coordinator.
14.2 Provide assistance in compiling documents comprising of the Administrative Record File in accordance with EPA Regional guidance or other procedures as specified.
14.3 Prepare Draft Administrative Record Index in accordance with EPA regional guidance or other procedures as specified.
14.4 Prepare Administrative Record Index.
14.5 Coordinate duplication of Administrative Record.
14.6 Assemble Administrative Record and Index.

Task 15 Task Order Closeout (CO)

15.1 Archive Files.
15.2 Prepare the Task Order Closeout Report (TOCR).

Attachment 3 - Regulations and Guidance Documents

The following list, although not comprehensive, consists of many of the regulations and guidance documents that apply to the RI/FS process:

1. American National Standards Practices for Respiratory Protection. American National Standards Institute Z88.2-1980, March 11, 1981.
2. ARCS Construction Contract Modification Procedures, September 1989, OERR Directive 9355.5-01/FS.
3. CERCLA Compliance with Other Laws Manual, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (DRAFT), OSWER Directive No. 9234.1-01 and -02.
4. Community Relations in Superfund - A Handbook, U.S. EPA, Office of Emergency and Remedial Response, January 1992, OSWER Directive No. 9230.0-3C.
5. A Compendium of Superfund Field Operations Methods, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.
6. Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, U.S. EPA, Office of Solid Waste and Emergency Response, October 1986, OSWER Directive No. 9472.003.
7. Contractor Requirements for the Control and Security of RCRA Confidential Business Information, March 1984.
8. Data Quality Objectives for Remedial Response Activities, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.
9. Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV, Environmental Services Division, April 1, 1986 (revised periodically).
10. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised November 1984.
11. Federal Acquisition Regulation, Washington, DC: U.S. Government Printing Office (revised periodically).
12. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive NO. 9355.3-01.
13. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potential Responsible Parties, U.S. EPA Office of Emergency and Remedial Response, EPA/540/G-90/001, April 1990.
14. Guidance on Expediting Remedial Design and Remedial Actions, EPA/540/G-90/006, August 1990.
15. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites, U.S. EPA Office of Emergency and Remedial Response (DRAFT), OSWER Directive No. 9283.1-2.
16. Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, Prepublication version.
17. Guide to Management of Investigation-Derived Wastes, U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.
18. Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.
19. Health and Safety Requirements of Employees Employed in Field Activities, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1982, EPA Order No. 1440.2.
20. Interim Guidance on Compliance with Applicable of Relevant and Appropriate Requirements, U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
21. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
22. Methods for Evaluating the Attainment of Cleanup Standards: Vol. 1, Soils and Solid Media, February 1989, EPA 23/02-89-042; vol. 2, Ground Water (Jul 1992).
23. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.
24. NIOSH Manual of Analytical Methods, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.
25. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.
26. Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, February 19, 1992, OSWER Directive 9355.7-03.
27. Procedure for Planning and Implementing Off-Site Response Actions, Federal Register, Volume 50, Number 214, November 1985, pages 45933-45937.

28. Procedures for Completion and Deletion of NPL Sites, U.S. EPA, Office of Emergency and Remedial Response, April 1989, OSWER Directive No. 9320.2-3A.
29. Quality in the Constructed Project: A Guideline for Owners, Designers and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment, American Society of Civil Engineers, May 1988.
30. Remedial Design and Remedial Action Handbook, U.S. EPA, Office of Emergency and Remedial Response, June 1995, OSWER Directive No. 9355.5-22.
31. Revision of Policy Regarding Superfund Project Assignments, OSWER Directive No. 9242.3-08, December 10, 1991. [Guidance, p. 2-2]
32. Scoping the Remedial Design (Fact Sheet), February 1995, OSWER Publ. 9355-5-21 FS.
33. Standard Operating Safety Guides, U.S. EPA, Office of Emergency and Remedial Response, November 1984.
34. Standards for the Construction Industry, Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.
35. Standards for General Industry, Code of Federal Regulations, Title 29, Part 1910, Occupational Health and Safety Administration.
36. Structure and Components of 5-Year Reviews, OSWER Directive No. 9355.7-02, May 23, 1991. [Guidance, p. 3-5]
37. Superfund Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, April 1990, EPA/540/G-90/001.
38. Superfund Remedial Design and Remedial Action Guidance, U.S. EPA, Office of Emergency and Remedial Response, June 1986, OSWER Directive No. 9355.0-4A.
39. Superfund Response Action Contracts (Fact Sheet), May 1993, OSWER Publ. 9242.2-08FS.
40. TLVs-Threshold Limit Values and Biological Exposure Indices for 1987-88, American Conference of Governmental Industrial Hygienists.
41. Treatability Studies Under CERCLA, Final. U.S. EPA, Office of Solid Waste and Emergency Response, EPA/540/R-92/071a, October 1992.
42. USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, U.S. EPA, Office of Emergency and Remedial Response, July 1988.
43. USEPA Contract Laboratory Program Statement of Work for Organic Analysis, U.S. EPA, Office of Emergency and Remedial Response, February 1988.
44. User's Guide to the EPA Contract Laboratory Program, U.S. EPA, Sample Management Office, August 1982.
45. Value Engineering (Fact Sheet), U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9355.5-03FS, May 1990.

See the following guidance documents for more information on performance-based contracting:

46. A Guide to Best Practices for Performance-Based Service Contracting, Office of Federal Procurement Policy, April 1996.
47. A Guide to Best Practices for Performance-Based Service Contracting, Final Edition, Office of Federal Procurement Policy, October 1998.
48. Performance-Based Contracting (Fact Sheet), U.S. EPA, Office of Emergency and Remedial Response, Draft February 1999.
49. Policy Letter 91-2, To The Heads of Executive Agencies and Departments, April 9, 1991.

Attachment 4 - Transmittal of Documents for Acceptance By EPA

TRANSMITTAL OF DOCUMENTS FOR ACCEPTANCE BY EPA		DATE:	TRANSMITTAL NO.
TO:	FROM:		Γ New Transmittal Γ Re-submittal of Transmittal No. _____
SUBTASK NO.	DELIVERABLE	NO. OF COPIES	REMARKS
ACCEPTANCE ACTION			
DOCUMENTS FOUND ACCEPTABLE (LIST BY SUBTASK NO.)	NAME/TITLE/SIGNATURE OF REVIEWER DATE		

Attachment 5 - Transmittal Register

TRANSMITTAL REGISTER								
PROJECT TITLE AND LOCATION				CONTRACT NO.			TASK ORDER NO.	
Subtask No.	DELIVERABLE	No. of Copies	Due Date	Transmittal No.	Date Received	Date Comments Sent to Contractor	EPA Acceptance Date	REMARKS